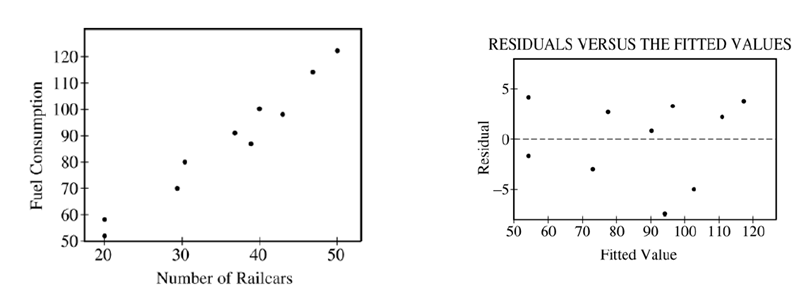
Stat and Data Analysis Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Review Problem

A study was done by the owners of a train company to compare fuel costs and size of trains being used. They compared the number of rail cars a train had to the fuel consumption of that train, in units/mile. The following scatterplot and residual plot are from this study.



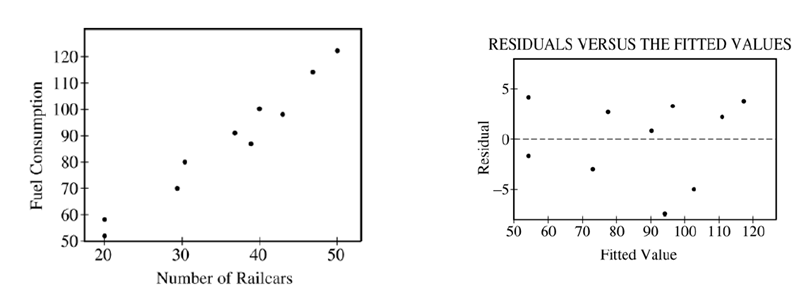
The LSRL from this study is *Fuel consumption = 10.7 + 2.15(railcars)* and r = 0.9834

1. Describe the scatterplot.
2. Interpret the slope in the context of the problem.
3. Interpret the y-intercept in the context of the problem.
4. What is R2? Interpret this in the context of the problem.
5. Is the linear model an appropriate one? Use the scatterplot, correlation, and residual plot to justify your answer.

Stat and Data Analysis Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Describe the scatterplot.
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4. What is R2? Interpret this in the context of the problem.
5. Is the linear model an appropriate one? Use the scatterplot, correlation, and residual plot to justify your answer.
6. What would you predict would be the fuel consumption for a train with 42 rail cars?
7. How confident are you in your prediction?
8. The actual fuel consumption for a train with 31 cars is 80. What is the residual?
9. What would you predict would be the fuel consumption for a train with 70 rail cars?
10. How confident are you in your prediction for a train with 70 rail cars?
11. What would you predict would be the fuel consumption for a train with 42 rail cars?
12. How confident are you in your prediction?
13. The actual fuel consumption for a train with 31 cars is 80. What is the residual?
14. What would you predict would be the fuel consumption for a train with 70 rail cars?
15. How confident are you in your prediction for a train with 70 rail cars?